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June 8, 2000

Mr. Dale Hatfield
Chief – Office of Engineering and Technology
Federal Communications Commission
445 12th Street, SW
Room 7-C155
Washington, DC 20554

Re: Final Service Outage Report

Dear Mr. Hatfield:

In accordance with the requirements in CC Docket 91-273, enclosed is the Final Service Disruption Report for the Bell Atlantic service outage that occurred on May 9, 2000 affecting Brockton, Massachusetts.

Please call me if you have any questions about this report or other service outage issues.

Sincerely,

Fran Folgner

Enclosure

cc: R. Kimball
K. Nilsson

BELL ATLANTIC – MASSACHUSETTS
FCC NETWORK DISRUPTION
FINAL SERVICE DISRUPTION REPORT

This Final Service Disruption Report is filed by Bell Atlantic on behalf of its telephone operating company, Bell Atlantic- Massachusetts (BA-MA), in accordance with Section 63.100 of the Commission's Rules in the Second Report and Order in CC Docket 91-273, 9 FCC Rcd 3911 (1994), as revised by the Order on Reconsideration, released October 30, 1995, 10 FCC Rcd 11764 (1995). Bell Atlantic filed an Initial Report on May 9, 2000 notifying the Commission of an outage that occurred on that day affecting Brockton, MA.

On Tuesday, May 9 at 10:14 AM, Bell Atlantic personnel assigned to remove a non-working fiber cable cut a fiber cable containing working systems that was labeled with the wrong cable number. The severed fiber cable, between the Brockton- Court Street central office (CO) and the Taunton CO, was incorrectly tagged in a manhole in Raynham, MA. Two T4 systems, supporting 33 T3's, that were not route diversified and 4 dark fibers lost service. Two SONET Rings, an OC12, an OC48, and four T6 systems on the cut fiber (156 T3 systems) remained in service because they had diverse routes.

The Network Operations Center (NOC) observed multiple T4 alarms and saw that both SONET rings became simplex. At 11:00 AM, Splice Service Technicians (SSTs) in the manhole were contacted to resplice the fiber. Restoration was delayed because the SST's had difficulty in identifying the fibers due to the uniform color of the buffer tubes, and the extended distance from each central office. With the assistance of construction technicians in the central offices, the correct fibers were identified and splicing began at 1:40 PM. Service recovery began at 2 PM. The failed systems were fully restored by 3 PM.

Date of Incident:

Tuesday, May 9, 2000

Time of Incident:

10:14 AM

Duration of Outage:

4 Hours, 46 Minutes

Geographic Area Affected:

Southeastern Massachusetts

Estimated Number of Customers Affected:

This outage potentially affected 64,200 access lines.

Type of Services Affected:

Switched intraLATA and interLATA message trunks were affected by this incident. Private lines and other special access services, including service to some state lottery machines, were adversely affected as well. Rhode Island was isolated from Call Completion and Directory Assistance services. 911 was routed to the backup PSAP.

Estimated Number of Blocked Calls:

Bell Atlantic estimates there were approximately 241,600 calls blocked as a result of this failure.

Cause of the Incident, Including Name and Type of Equipment Involved and Specific Part(s) of the Network Affected:

Root Cause Analysis:

Direct Cause: A fiber cable that was mislabeled with the wrong cable number was cut in a manhole.

Affected Element: Two T4 systems

Outage Cause: The failed systems did not have a diverse route

Duration Cause: Service restoration was prolonged for several reasons:

1. The cut fiber cable was of "loose buffer tube" construction. Unlike most fiber cable of buffer tube construction that Bell Atlantic purchases, these buffer tubes were the same color thus preventing rapid identification of fibers for splicing.

2. The cut fiber cable was too far from the Brockton CO to use standard fiber optic test equipment such as visible light or audible tone for fiber identification.

3. Fiber-optic patch cords of the required length and connector type to provide temporary patching were not readily available.

Root Cause Finding:

This failure was caused by incorrectly labeling the fiber cable to be removed.

Methods Used to Restore Service:

The cable was respliced.

Current or Proposed Company Practices Related to this Outage:

Bell Atlantic has implemented a practice (BA-2000-0177-OSP) to provide identification guidelines for fiber cables and optical conductors and reduce the potential for error with work operations and all work environments.

Network Reliability Council "Best Practices" That Relate To This Incident:

One "best practice" recommended by the Network Reliability Council in their report "Network Reliability: A Report to the Nation," applies to this outage. Section F, Para.6.1.1 proffers "Defensive Measures for Interoffice Facilities."

Describe How The NRC Recommendation(s) Could Have Prevented This Outage:

Correct identification and labeling of the fiber optic cable would have prevented the service disruption. Route diversity would have prevented this outage.

Steps Taken to Prevent Recurrence:

- Bell Atlantic has implemented a policy with stringent guidelines for identifying and removing fiber cables.
- Bell Atlantic is diversifying the route for the facilities and fiber cable associated with the incident
- Bell Atlantic is reviewing the cut fiber cable record and visually verifying that the splices are correctly tagged.